

Remarks

Claims 1-3, 8, 9 and 12-21 are pending herein. By this Amendment, claims 4-7, 10 and 11 have been cancelled; claims 1, 9 and 12 have been amended; and new claims 13-21 have been added. Attached is a check in payment for one additional independent claim.

Claim 1 has been amended to include the contents of cancelled claim 4 and the feature recited in claim 12.

Claim 9 has been amended to correct an informality therein.

Claims 5, 10 and 11 have been cancelled and rewritten as new claims 13-15, respectively.

Claim 12 has been amended to depend upon new claim 13.

New claims 16 and 17 have been added which recite the feature of claim 12 but which depend upon new claims 14 and 15, respectively.

Claim 7 has been cancelled and replaced with new claim 18.

New claims 19-21 are directed to detergent compositions comprising the polymer of claims 13-15, respectively.

In the Office Action, claim 6 is objected to under 37 CFR 1.75(c); claims 9 and 12 are objected to because of various informalities; claim 7 is rejected under 35 U.S.C. §112, second paragraph, and under 35 U.S.C. §101; claims 1-3, 6-9 and 12 are rejected under 35 U.S.C. §102(b) as being anticipated by EP 497,611 to Swift et al. (“EP ‘611”); and claims 1-4 and 6-9 are rejected under 35 U.S.C. §102(b) as being anticipated by the article “Swift, ‘Water-Soluble Polymers’” (“the Swift article”). In addition, claims 5, 10 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In view of the amendments and remarks herein, Applicants respectfully request reconsideration and withdrawal of the objections and rejections set forth in the Office Action.

I. Objection to Claim 6

Claim 6 is objected to under 37 CFR 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim. By this Amendment, claim 6 has been cancelled.

II. Objection to Claims 9 and 12

Claims 9 and 12 are objected to because of certain informalities. By this Amendment, claims 9 and 12 have been amended to correct the informalities.

III. Rejections of Claim 7 Under 35 U.S.C. §112 and §101

Claim 7 is rejected under 35 U.S.C. §112, second paragraph, and under 35 U.S.C. §101. Both rejections are based on the fact that claim 7 does not recite any steps involved in the claimed process.

Claim 7 has been cancelled and replaced with new claim 18, which is directed to a detergent composition comprising the hydrophilic polymer of claim 1. New claims 19-21 are directed to detergent compositions comprising the hydrophilic polymer of claims 13-15, respectively.

Support for new claims 18-21 can be found in the instant specification at, for example, page 1, lines 6-8.

IV. Rejection of Claims 1-3, 6-9 and 12 Under 35 U.S.C. §102(b)

Claims 1-3, 6-9 and 12 are rejected under 35 U.S.C. §102(b) as being anticipated by EP '611.

EP '611 is cited for disclosing a terpolymer for use in detergent compositions containing 15-55 mole percent of a first monomer selected from vinyl acetate, vinyl ethers, and styrene; 10-70 mole percent of a second monomer of an ethylenically unsaturated monocarboxylic acid, such as acrylic acid; and 15-55 mole percent of a third monomer of an anhydride of a dicarboxylic acid. The Examiner specifically notes Examples 1-35 of the reference.

Applicants respectfully submit that EP '611 does not anticipate instant claims 1-3, 8, 9 and 12 or new claim 18 (claims 6 and 7 are cancelled and claim 18 replaces claim 7).

By this Amendment, the contents of cancelled claim 4 have been incorporated into claim 1. Thus, claim 1 now includes the recitation that monomer B is selected from the group consisting of monomers bearing two conjugated double bonds and monomers bearing a triple bond.

EP '611 does not teach or suggest that the terpolymer therein may contain units derived from polymerization of a monomer bearing two conjugated double bonds or a triple bond.

Thus, for at least this reason, Applicants submit that EP '611 does not anticipate instant claims 1-3, 8, 9 and 18.

V. Rejection of Claims 1-4 and 6-9 Under 35 U.S.C. §102(b)

Claims 1-4 and 6-9 are rejected under 35 U.S.C. §102(b) as being anticipated by the Swift article.

The Swift article is cited for disclosing water-soluble polymers for use in detergent formulations comprising 74.8-97.1% by weight of an acrylic acid monomer, 10.5-31.6% by weight of a maleic acid monomer, and 2.1-5.3% by weight of a crosslinker monomer, such as ethylene glycol dimaleate.

Applicants respectfully submit that the Swift article does not anticipate instant claims 1-3, 8, 9 or 18 (claims 4, 6 and 7 have been cancelled, and claim 18 replaces claim 7).

By this Amendment, the feature recited in claim 12 has been incorporated into claim 1. Thus, amended claim 1 includes the recitation that monomer C is selected from the group consisting of vinyl, acrylic, styrene and derivatives thereof. Claim 1 also recites that the amount of units derived by polymerization from monomer C is up to 29% by weight.

The Swift article does not teach or suggest the use of monomer C in the amount recited in instant claim 1. Therefore, for at least this reason, Applicants submit that the Swift article does not anticipate claims 1-3, 8, 9 and 18.

VI. Objection to Claims 5, 10 and 11

Claims 5, 10 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

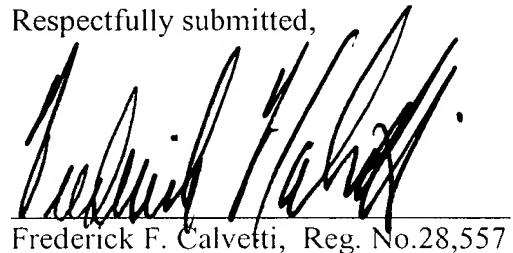
By this Amendment, claims 5, 10 and 11 have been cancelled and replaced by new independent claims 13-15, respectively, which include the limitations of the base claim and the sole intervening claim, i.e., claim 4. Accordingly, Applicants submit that new claims 13-15 are allowable.

Claims 12 and 19 depend upon claim 13, claims 16 and 20 depend upon claim 14, and claims 17 and 21 depend upon claim 15. Accordingly, Applicants respectfully submit that claims 12, 16, 17 and 19-21 are also allowable.

VII. Conclusion

In view of the amendments and remarks herein, Applicants respectfully request that the objections and rejections set forth in the Office Action be withdrawn and that claims 1-3, 8, 9 and 12-21 be allowed.

Respectfully submitted,



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LISTING OF CLAIMS

Claim 1 (Currently Amended): A hydrophilic polymer with improved biodegradability, comprising:

- from 70% to 99% by weight of units derived by polymerization from at least one monomer A bearing a carboxylic acid function or an equivalent function,
- from 1% to 30% by weight of units derived by polymerization from at least one monomer B bearing an electron-rich group or a function capable of introducing an electron-rich group into the main chain, wherein monomer B is selected from the group consisting of monomers bearing two conjugated double bonds and monomers bearing a triple bond; and
- units derived by polymerization from at least one monomer C which is copolymerizable with A and B, but is different from A and B, the amount of such units being up to 29% by weight, wherein monomer C is selected from the group consisting of vinyl, acrylic, styrene and derivatives thereof.

Claim 2 (Previously Amended): The hydrophilic polymer as claimed in claim 1, wherein the monomer A is chosen from the group consisting of monomers bearing at least one carboxylic acid and derivatives thereof.

Claim 3 (Previously Amended): The hydrophilic polymer as claimed in claim 9, wherein the monomer A is acrylic acid.

Claims 4-7 (Cancelled)

Claim 8 (Previously Amended): The hydrophilic polymer as claimed in claim 1, wherein the hydrophilic polymer is crosslinked with a difunctional agent to form a carboxylic polymer which can be used as a superabsorbent.

Claim 9 (Currently Amended): The hydrophilic polymer as claimed in claim 2, wherein monomer A is selected from the group consisting of maleic anhydride, acrylic acid, methacrylic acid, itaconic acid, fumaric acid, ~~and~~ maleic acid and the salts of the foregoing.

Claims 10-11 (Cancelled)

Claim 12 (Currently Amended): The hydrophilic polymer as claimed in claim 6 13, wherein the monomer C is selected from the group consisting of vinyl, acrylic, ~~and~~ styrene monomers and derivatives thereof.

Claim 13 (New): A hydrophilic polymer with improved biodegradability, comprising:

- from 70% to 99% by weight of units derived by polymerization from at least one monomer A bearing a carboxylic acid function or an equivalent function,
- from 1% to 30% by weight of units derived by polymerization from at least one isoprene, and
- units derived by polymerization from at least one monomer C which is copolymerizable with A and isoprene, but is different from A and isoprene, the amount of such units being up to 29% by weight.

Claim 14 (New): A hydrophilic polymer with improved biodegradability, comprising:

- from 70% to 99% by weight of units derived by polymerization from at least one monomer A bearing a carboxylic acid function or an equivalent function,
- from 1% to 30% by weight of units derived by polymerization from at least one monomer B, wherein monomer B bears two conjugated double bonds and is selected from the group consisting of butadiene, isoprene, chloroprene,

dimethylbutadiene, cyclohexadiene, butadienecarboxylic acid and butadienedicarboxylic acid, and

- units derived by polymerization from at least one monomer C which is copolymerizable with A and B, but is different from A and B, the amount of such units being up to 29% by weight.

Claim 15 (New): A hydrophilic polymer with improved biodegradability, comprising:

- from 70% to 99% by weight of units derived by polymerization from at least one monomer A bearing a carboxylic acid function or an equivalent function,

- from 1% to 30% by weight of units derived by polymerization from at least one monomer B, wherein monomer B bears a triple bond and is selected from the group consisting of acetylene, acetylenecarboxylic acid and acetylenedicarboxylic acid, and

- units derived by polymerization from at least one monomer C which is copolymerizable with A and B, but is different from A and B, the amount of such units being up to 29% by weight.

Claim 16 (New): The hydrophilic polymer as claimed in claim 14, wherein the monomer C is selected from the group consisting of vinyl, acrylic, styrene monomers and derivatives thereof.

Claim 17 (New): The hydrophilic polymer as claimed in claim 15, wherein the monomer C is selected from the group consisting of vinyl, acrylic, styrene monomers and derivatives thereof.

Claim 18 (New): A detergent composition comprising the hydrophilic polymer of claim 1.

Claim 19 (New): A detergent composition comprising the hydrophilic polymer of claim 13.

Claim 20 (New): A detergent composition comprising the hydrophilic polymer of claim 14.

Claim 21 (New): A detergent composition comprising the hydrophilic polymer of claim 15.